AT-FS716
AT-FS716E
AT-FS724I

Fast Ethernet Switches

Installation Guide

PN 613-10804-00 Rev. A

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Electrical Safety and Installation Requirements For AT-FS724I

STANDARDS: This product meets the following standards

U.S. Federal Communications Commission

RADIATED ENERGY

Note: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and , if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Note: Modifications or changes not expressly approved of by the manufacturer or the FCC, can void your right to operate this equipment.

Canadian Department of Communications

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

RFI Emission	EN55022 Class A

WARNING: In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Immunity	EN50082-1
Electrical Safety	TUV-EN60950, UL1950, CSA 950

NORMEN: Dieses Produkt erfüllt die Anforderungen der nachfolgenden Normen.

Hochfrequenzstörung	EN55022 Klasse A

WARNUNG: Bei Verwendung zu Hause kann dieses Produkt Funkstörungen hervorrufen. In diesem Fall müßte der Anwender angemessene Gegenmaßnahmen ergreifen.

Störsicherheit	EN50082-1
Elektrische Sicherheit	TUV-EN60950, UL1950, CSA 950

STANDARDER: Dette produkt tilfredsstiller de følgende standarder.

Radiofrekvens forstyrrelsesemission	EN55022 Klasse A

ADVARSEL: I et hjemligt miljø kunne dette produkt forårsage radio forstyrrelse. Bliver det tilfældet, påkræves brugeren muligvis at tage tilstrækkelige foranstaltninger.

Immunitet	EN50082-1
Elektrisk sikkerhed	TUV-EN60950, UL1950, CSA 950

EISEN: Dit product voldoet aan de volgende eisen.

RFI Emissie	EN55022 Klasse A

WAARSCHUWING:Binnenshuiskanditproductradiostoringveroorzaken,inwelkgevaldegebruiker verplicht kan worden om gepaste maatregelen te nemen.

Immuniteit	EN50082-1
Electrische Veiligheid	TUV-EN60950, UL1950, CSA 950

NORMES: ce produit est conforme aux normes de suivantes :

Emission d'interférences radioélectriques	EN55022 Classe A

MISEENGARDE:dansunenvironnementdomestique,ceproduitpeutprovoquerdesinterférences radioélectriques. Auquel cas, l'utilisateur devra prendre les mesures adéquates.

Immunité	EN50082 - 1
Sécurité électrique	TUV-EN60950, UL1950, CSA 950

STANDARDIT: Tämä tuote on seuraavien standardien mukainen.

Radioaaltojen häirintä	EN55022 Luokka A

VAROITUS: Kotiolosuhteissa tämä laite voi aiheuttaa radioaaltojen häiröitä, missä tapauksessa laitteen käyttäjän on mahdollisesti ryhdyttävä tarpeellisiin toimenpiteisiin.

Kestävyys	EN50082-1
Sähköturvallisuus	TUV-EN60950, UL1950, CSA 950

STANDARD: Questo prodotto è conforme ai seguenti standard.

Emissione RFI (interferenza di radiofrequenza)	EN55022 Classe A

AVVERTENZA: in ambiente domestico questo prodotto potrebbe causare radio interferenza. In questo caso potrebbe richiedersi all'utente di prendere gli adeguati provvedimenti.

Immunità	EN50082-1
Sicurezza elettrica	TUV-EN60950, UL1950, CSA 950

SIKKERHETSNORMER: Dette produktet tilfredsstiller følgende sikkerhetsnormer.

RFI stråling	EN55022 Klasse A

ADVARSEL: Hvis dette produktet benyttes til privat bruk, kan produktet forårsake radioforstyrrelse. Hvis dette skjer, må brukeren ta de nødvendige forholdsregler.

Immunitet	EN50082-1
Elektrisk sikkerhet	TUV-EN60950, UL1950, CSA 950

PADRÕES: Este produto atende aos seguintes padrões.

Emissão de interferência de radiofrequência	EN55022 Classe A

AVISO: Num ambiente doméstico este produto pode causar interferência na radiorrecepção e, neste caso, pode ser necessário que o utente tome as medidas adequadas.

Imunidade	EN50082-1
Segurança Eléctrica	TUV-EN60950, UL1950, CSA 950

ESTÁNDARES: Este producto cumple con los siguientes estándares.

Emisión RFI	EN55022 Clase A

ADVERTENCIA: en un entorno doméstico, este producto puede causar radiointerferencias, en cuyo caso, puede requerirse del usuario que tome las medidas que sean convenientes al respecto.

Inmunidad	EN50082-1
Seguridad eléctrica	TUV-EN60950, UL1950, CSA 950

STANDARDER: Denna produkt uppfyller följande standarder.

Radiostörning	EN55022 Klass A

VARNING: Denna produkt kan ge upphov till radiostörningar i hemmet, vilket kan tvinga användaren till att vidtaga erforderliga åtgärder.

Immunitet	EN50082-1
Elsäkerhet	TUV-EN60950, UL1950, CSA 950

Electrical Safety and Installation Requirements For AT-FS716 and AT-FS716E

STANDARDS: This product meets the following standards.

U.S. Federal Communications Commission

DECLARATION OF CONFORMITY

Manufacture Name:	Allied Telesyn International
Manufacture Address:	950 Kifer Road Sunnyvale, CA 94086 USA
Manufacture Telephone:	408-730-0950
Declares that the product:	Switches
Model Number:	AT-FS716 and AT-FS716E

This product complies with FCC Part 15B, Class B Limits:
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIATED ENERGY
Note: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission rules.

Immunity	EN50082-1
Electrical Safety	TUV-EN60950, UL1950, CSA 950

NORMEN: Dieses Produkt erfüllt die Anforderungen der nachfolgenden Normen.

Hochfrequenzstörung	EN55022 Klasse B
Störsicherheit	EN50082-1
Elektrische Sicherheit	TUV-EN60950, UL1950, CSA 950

STANDARDER: Dette produkt tilfredsstiller de følgende standarder.

Radiofrekvens forstyrrelsesemission	EN55022 Klasse B
Immunitet	EN50082-1
Elektrisk sikkerhed	TUV-EN60950, UL1950, CSA 950

EISEN: Dit product voldoet aan de volgende eisen.

RFI Emissie	EN55022 Klasse B
Immuniteit	EN50082-1
Electrische Veiligheid	TUV-EN60950, UL1950, CSA 950

NORMES: ce produit est conforme aux normes de suivantes :

Emission d'interférences radioélectriques	EN55022 Classe B
Immunité	EN50082 - 1
Sécurité électrique	TUV-EN60950, UL1950, CSA 950

STANDARDIT: Tämä tuote on seuraavien standardien mukainen.

Radioaaltojen häirintä	EN55022 Luokka B
Kestävyys	EN50082-1
Sähköturvallisuus	TUV-EN60950, UL1950, CSA 950

STANDARD: Questo prodotto è conforme ai seguenti standard.

Emissione RFI (interferenza di radiofrequenza)	EN55022 Classe B
Immunità	EN50082-1
Sicurezza elettrica	TUV-EN60950, UL1950, CSA 950

SIKKERHETSNORMER: Dette produktet tilfredsstiller følgende sikkerhetsnormer.

RFI stråling	EN55022 Klasse B
Immunitet	EN50082-1
Elektrisk sikkerhet	TUV-EN60950, UL1950, CSA 950

PADRÕES: Este produto atende aos seguintes padrões.

Emissão de interferência de radiofrequência	EN55022 Classe B
Imunidade	EN50082-1
Segurança Eléctrica	TUV-EN60950, UL1950, CSA 950

ESTÁNDARES: Este producto cumple con los siguientes estándares.

Emisión RFI	EN55022 Clase B
Inmunidad	EN50082-1
Seguridad eléctrica	TUV-EN60950, UL1950, CSA 950

STANDARDER: Denna produkt uppfyller följande standarder.

Radiostörning	EN55022 Klass B
Immunitet	EN50082-1
Elsäkerhet	TUV-EN60950, UL1950, CSA 950

Safety Information (All Products)

SAFETY
ELECTRICAL NOTICES
WARNING: ELECTRIC SHOCK HAZARD
To prevent ELECTRIC shock , do not remove cover. No user-serviceable parts inside. This unit contains HAZARDOUS VOLTAGES and should only be opened by a trained and qualified technician. To avoid the possibility of ELECTRIC SHOCK disconnect electric power to the product before connecting or disconnecting the LAN cables.

LIGHTNING DANGER
DANGER: DO NOT WORK on equipment or CABLES during periods of LIGHTNING ACTIVITY.

INSTALLATION

ELECTRICAL—AUTO VOLTAGE ADJUSTMENT
This product will automatically adjust to any voltage between the ranges shown on the label.

ELECTRICAL—TYPE CLASS 1 EQUIPMENT
THIS EQUIPMENT MUST BE EARTHED. Power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts.

ELECTRICAL—CORD NOTICE
Use power cord, maximum 4.5 meters long, rated 6 amp minimum, 250V, made of HAR cordage molded IEC 320 connector on one end and on the other end a plug approved by the country of end use.

CAUTION: Air vents must not be blocked and must have free access to the room ambient air for cooling.

OPERATING TEMPERATURE
This product is designed for a maximum ambient temperature of 40 degrees C.

ALL COUNTRIES: Install product in accordance with local and National Electrical Codes.

SICHERHEIT
ACHTUNG: GEFÄHRLICHE SPANNUNG
Das Gehäuse nicht öffnen. Das Gerät enthält keine vom Benutzer wartbaren Teile. Das Gerät steht unter Hochspannung und darf nur von qualifiziertem technischem Personal geöffnet werden. Vor Anschluß der LAN-Kabel, Gerät vom Netz trennen.

GEFAHR DURCH BLITZSCHLAG
GEFAHR: Keine Arbeiten am Gerät oder an den Kabeln während eines Gewitters ausführen.

INSTALLATION

AUTOMATISCHE SPANNUNGSEINSTELLUNG
Dieses Gerät stellt sich automatisch auf die auf dem Etikett aufgeführten Spannungswerte ein.

GERÄTE DER KLASSE 1
DIESE GERÄTE MÜSSEN GEERDET SEIN. Der Netzstecker darf nur mit einer vorschriftsmäßig geerdeten Steckdose verbunden werden. Ein unvorschriftsmäßiger Anschluß kann die Metallteile des Gehauses unter gefährliche elektrische Spannungen setzen.

NETZKABEL

Das Netzkabel sollte eine maximale Länge von 4,5 Metern, einen Nennwert von mindestens 6 A und 250 V haben, aus HAR-Material hergestellt und mit einer gepreßten, IEC 320 entsprechenden, Anschlußverbindung an einem Ende, und am anderen Ende mit einem im Land des Endverbrauchers geprüften Stecker ausgestattet sein.

VORSICHT
Die Entlüftungsöffnungen dürfen nicht versperrt sein und müssen zum Kühlen freien Zugang zur Raumluft haben.

BETRIEBSTEMPERATUR
Dieses Produkt wurde für den Betrieb in einer Umgebungstemperatur von nicht mehr als 40° C entworfen.

ALLE LÄNDER: Installation muß örtlichen und nationalen elektrischen Vorschriften entsprechen.

SIKKERHED

ELEKTRISKE FORHOLDSREGLER

ADVARSEL: RISIKO FOR ELEKTRISK STØD
For at forebygge ELEKTRISK stød, undlad at åbne apparatet. Der er ingen indre dele, der kan repareres af brugeren. Denne enhed indeholder LIVSFARLIGE STRØMSPÆNDINGER og bør kun åbnes af en uddannet og kvalificeret tekniker. For at undgå risiko for ELEKTRISK STØD, afbrydes den elektriske strøm til produktet, før LAN-kablerne monteres eller afmonteres.

FARE UNDER UVEJR
FARE: UNDLAD at arbejde på udstyr eller KABLER i perioder med LYNAKTIVITET.

INSTALLATION

ELEKTRISK—AUTOMATISK SPÆNDINGSREGULERING
Dette apparat vil automatisk tilpasse sig enhver spænding indenfor de værdier, der er angivet på etiketten.

ELEKTRISK—KLASSE 1-UDSTYR
DETTE UDSTYR KRÆVER JORDFORBINDELSE. Stikket skal være forbundet med en korrekt installeret jordforbunden stikkontakt. En ukorrekt installeret stikkontakt kan sætte livsfarlig spænding til tilgængelige metaldele.

ELEKTRISK—EDNING
Anvend ledning af maksimum 4,5 meters længde, med en kapacitet på minimum 6 amp., 250 v, bestående af en IEC 320 connector med indstøbt HAR ledning i den ene ende og et stik i den anden ende, der er godkendt af myndighederne i brugerlandet.

ADVARSEL: Ventilationsåbninger må ikke blokeres og skal have fri adgang til den omgivende luft i rummet for afkøling.

BETJENINGSTEMPERATUR
Dette apparat er konstrueret til en omgivende temperatur på maksimum 40 grader C.

ALLE LANDE: Installation af produktet skal ske i overensstemmelse med lokal og national lovgivning for elektriske installationer.

VEILIGHEID

WAARSCHUWINGEN MET BETREKKING TOT ELEKTRICITEIT

WAARSCHUWING: GEVAAR VOOR ELEKTRISCHE SCHOKKEN

Verwijder het deksel niet, teneinde ELEKTRISCHE schokken te voorkomen. Binnenin bevinden zich geen onderdelen die door de gebruiker onderhouden kunnen worden. Dit toestel staat onder GEVAARLIJKE SPANNING en mag alleen worden geopend door een daartoe opgeleide en bevoegde technicus. Om het gevaar op ELEKTRISCHE SCHOKKEN te vermijden, moet u het toestel van de stroombron ontkoppelen alvorens de LAN-kabels te koppelen of ontkoppelen.

GEVAAR VOOR BLIKSEMINSLAG

GEVAAR: NIET aan toestellen of KABELS WERKEN bij BLIKSEM.\

INSTALLATIE

ELEKTRISCH - AUTOMATISCHE AANPASSING VAN DE SPANNING

Dit toestel past zich automatisch aan elke spanning aan, tussen de op het label vermelde waarden.

ELEKTRISCHE TOESTELLEN VAN KLASSE 1

DIT TOESTEL MOET GEAARD WORDEN. De stekker moet aangesloten zijn op een juist geaarde contactdoos. Een onjuist geaarde contactdoos kan de metalen onderdelen waarmee de gebruiker eventueel in aanraking komt onder gevaarlijke spanning stellen.

ELEKTRISCHE SNOEREN

Gebruik een elektrisch snoer, maximum 4,5 meter lang, berekend voor ten minste 6 ampåçère, 250 V, uit HAR vervaardigd, met aan het ene uiteinde een gevormd IEC 320 aansluitstuk en aan het andere uiteinde een stekker die goedgekeurd is door het land waar het toestel gebruikt zal worden.

OPGELET: De ventilatiegaten mogen niet worden gesperd en moeten de omgevingslucht ongehinderd toelaten voor afkoeling.

BEDRIJFSTEMPERATUUR

De omgevingstemperatuur voor dit produkt mag niet meer bedragen dan 40 graden Celsius.

ALLE LANDEN: het toestel installeren overeenkomstig de lokale en nationale elektrische voorschriften.

SÉCURITÉ

INFORMATION SUR LES RISQUES ÉLECTRIQUES

AVERTISSEMENT: DANGER D'ÉLECTROCUTION

Pour éviter toute ÉLECTROCUTION, ne pas ôter le revêtement protecteur du matériel. Ce matériel ne contient aucun élément réparable par l'utilisateur. II comprend des TENSIONS DANGEREUSES et ne doit être ouvert que par un technicien dûment qualifié. Pour éviter tout risque d'ÉLECTROCUTION, débrancher le matériel avant de connecter ou de déconnecter les câbles LAN.

DANGER DE FOUDRE

DANGER: NE PAS MANIER le matériel ou les CÂBLES lors d'activité orageuse.

INSTALLATION

RÉGLAGE DE TENSION AUTOMATIQUE ÉLECTRIQUE

Ce matériel peut s'ajuster automatiquement sur n'importe quelle tension comprise dans la plage indiquée sur l'étiquette.

ÉQUIPEMENT DE CLASSE 1 ÉLECTRIQUE
CE MATÉRIEL DOIT ÊTRE MIS A LA TERRE. La prise de courant doit être branchée dans une prise femelle correctement mise à la terre car des tensions dangereuses risqueraient d'atteindre les pièces métalliques accessibles à l'utilisateur.

INFORMATION SUR LE CORDON ÉLECTRIQUE
Utiliser un cordon secteur de 4.5 mètres de long maximum, calibré à 6 ampères minimum, 250V, fabriqué en câblage HAR avec connecteur IEC 32C moulé à une extrémité, et à l'autre extrémité, une prise de courant mâle répondant aux normes du pays d'utilisation.

ATTENTION: Ne pas bloquer les fentes d'aération, ceci empêcherait l'air ambiant de circuler librement pour le refroidissement.

TEMPÉRATURE DE FONCTIONNEMENT
Ce matériel est capable de tolérer une température ambiante maximum de 40 degrés Celsius.

POUR TOUS PAYS : Installer le matériel conformément aux normes électriques nationales et locales.

TURVALLISUUS
SÄHKÖÖN LIITTYVIÄ HUOMAUTUKSIA
VAROITUS: SÄHKÖISKUVAARA
Estääksesi SÄHKÖISKUN älä poista kantta. Sisällä ei ole käyttäjän huollettavissa olevia osia. Tämä laite sisältää VAARALLISIA JÄNNITTEITÄ ja sen voi avata vain koulutettu ja pätevä teknikko. Välttääksesi SÄHKÖISKUN mahdollisuuden katkaise sähkövirta tuotteeseen ennen kuin liität tai irrotat paikallisverkon (LAN) kaapelit.

SALAMANISKUVAARA
HENGENVAARA: ÄLÄ TYÖSKENTELE laitteiden tai KAAPELEIDEN KANSSA SALAMOINNIN AIKANA.

ASENNUS

SÄHKÖ—AUTOMAATTINEN JÄNNITTEENSÄÄTÖ
Tämä tuote säätää automaattisesti mihin tahansa jännitteeseen ohjetarrassa annettujen arvojen välillä.

SÄHKÖ—TYYPPILUOKAN 1 LAITTEET
TÄMÄ LAITE TÄYTYY MAADOITTAA. Pistoke täytyy liittää kunnollisesti maadoitettuun pistorasiaan. Virheellisesti johdotettu pistorasia voi altistaa metalliosat vaarallisille jännitteille.

SÄHKÖ—JOHTOON LIITTYVÄ HUOMAUTUS
Käytä seuraavanlaista virtajohtoa: maksimipituus 4,5 metriä, minimiteho 6 ampeeria, 250 V, valmistettu HAR-johdostosta, muovattu IEC 320 -liitin toisessa päässä ja käyttömaassa hyväksytty pistoke toisessa päässä.

HUOMAUTUS: Ilmavaihtoreikiä ei pidä tukkia ja niillä täytyy olla vapaa yhteys ympäröivään huoneilmaan, jotta ilmanvaihto tapahtuisi.

KÄYTTÖLÄMPÖTILA
Tämä tuote on suunniteltu ympäröivän ilman maksimilämpötilalle 40°C.

KAIKKI MAAT: Asenna tuote paikallisten ja kansallisten sähköturvallisuusmääräysten mukaisesti.

NORME DI SICUREZZA
AVVERTENZE ELETTRICHE
ATTENZIONE: PERICOLO DI SCOSSE ELETTRICHE
Per evitare SCOSSE ELETTRICHE non asportare il coperchio. Le componenti interne non sono riparabili dall'utente. Questa unità ha TENSIONI PERICOLOSE e va aperta solamente da un tecnico specializzato e qualificato. Per evitare ogni possibilità di SCOSSE ELETTRICHE, interrompere l'alimentazione del dispositivo prima di collegare o staccare i cavi LAN.

PERICOLO DI FULMINI
PERICOLO: NON LAVORARE sul dispositivo o sui CAVI durante PRECIPITAZIONI TEMPORALESCHE.

INSTALLAZIONE

ELETTRICITÀ—REGOLAZIONE AUTOMATICA DELLA TENSIONE
Questo prodotto regolerà automaticamente la tensione ad un valore compreso nella gamma indicata sull'etichetta.

ELETTRICITÀ—DISPOSITIVI DI CLASSE 1
QUESTO DISPOSITIVO DEVE AVERE LA MESSA A TERRA. La spina deve essere inserita in una presa di corrente specificamente dotata di messa a terra. Una presa non cablata in maniera corretta rischia di scaricare una tensione pericolosa su parti metalliche accessibili.

ELETTRICITÀ—AVVERTENZA SUL CAVO
Usare un cavo della lunghezza massima di metri 4,5, con capacità minima di 6 A, 250 V, di filo HAR, dotato di connettore stampato IEC 320 ad un'estremità e di spina approvata dal paese di destinazione all'altra.

ATTENZIONE: le prese d'aria non vanno ostruite e devono consentire il libero ricircolo dell'aria ambiente per il raffreddamento.

TEMPERATURA DI FUNZIONAMENTO
Questo prodotto è concepito per una temperatura ambientale massima di 40 gradi centigradi.

TUTTI I PAESI: installare il prodotto in conformità delle vigenti normative elettriche nazionali.

SIKKERHET
ELEKTRISITET
ADVARSEL: FARE FOR ELEKTRISK SJOKK
For å unngå ELEKTRISK sjokk, må dekslet ikke tas av. Det finnes ingen deler som brukeren kan reparere på innsiden. Denne enheten inneholder FARLIGE SPENNINGER, og må kun åpnes av en faglig kvalifisert tekniker. For å unngå ELEKTRISK SJOKK må den elektriske strømmen til produktet være avslått før LAN-kablene til- eller frakobles.

FARE FOR LYNNEDSLAG
FARE: ARBEID IKKE på utstyr eller KABLER i TORDENVÆR.

INSTALLASJON

ELEKTRISK—AUTO SPENNINGSTILPASNING
Dette produktet vil automatisk bli tilpasset hvilken som helst strømspenning i de områdene som vises på etiketten.

ELEKTRISK—TYPE 1- KLASSE UTSTYR
DETTE UTSTYRET MÅ JORDES. Strømkontakten må være tilkoplet en korrekt jordet kontakt. En kontakt som ikke er korrekt jordet kan føre til farlig spenninger i lett t ilgjengelige metalldeler.

ELEKTRISK—MEDDELELSE OM LEDNINGER
Bruk en strømledning av maksimalt 4.5 m. i lengde, godkjent for minst av 6 amp, 250V, fremstilt av HAR ledning IEC 320 koplingsstykke i den ene enden, og i den andre enden en plugg som er blitt godkjent i brukerlandet.

FORSIKTIG: Lufteventilene må ikke blokkeres, og må ha fri tilgang til luft med romtemperatur for avkjøling.

DRIFTSTEMPERATUR
Dette produktet er konstruert for bruk i maksimum romtemperatur på 40 grader celsius.

ALLE LAND: Produktet må installeres i samsvar med de lokale og nasjonale elektriske koder.

SEGURANÇA
AVISOS SOBRE CARACTERÍSTICAS ELÉTRICAS
ATENÇÃO: PERIGO DE CHOQUE ELÉTRICO
Para evitar CHOQUE ELÉTRICO, não retire a tampa. Não contém peças que possam ser consertadas pelo usuário. Este aparelho contém VOLTAGENS PERIGOSAS e só deve ser aberto por um técnico qualificado e treinado. Para evitar a possibilidade de CHOQUE ELÉTRICO, desconecte o aparelho da fonte de energia elétrica antes de conectar e desconectar os cabos da LAN.

PERIGO DE CHOQUE CAUSADO POR RAIO
PERIGO: NÃO TRABALHE no equipamento ou nos CABOS durante períodos suscetíveis a QUEDAS DE RAIO.

INSTALAÇÃO

ELÉTRICO—AJUSTE AUTOMÁTICO DE VOLTAGEM
Este produto ajustar-se-á automaticamente a qualquer voltagem que esteja dentro dos limites indicados no rótulo.

ELÉTRICO—EQUIPAMENTOS DO TIPO CLASSE 1
DEVE SER FEITA LIGAÇÃO DE FIO TERRA PARA ESTE EQUIPAMENTO. O plugue de alimentação deve ser conectado a uma tomada com adequada ligação de fio terra. Tomadas sem adequada ligação de fio terra podem transmitir voltagens perigosas a peças metálicas expostas.

ELÉTRICO—AVISO SOBRE O CABO DE ALIMENTAÇÃO
Use cabo de alimentação com comprimento máximo de 4,5 metros, com uma capacidade indicada mínima de 6 amp e 250 V, fabricado de material para cabo HAR com conector moldado IEC 320 em uma extremidade e, na outra extremidade, um plugue aprovado para uso no país em questão.

CUIDADO: As aberturas de ventilação não devem ser bloqueadas e devem ter acesso livre ao ar ambiente para arrefecimento adequado do aparelho.

TEMPERATURA DE FUNCIONAMENTO
Este produto foi projetado para uma temperatura ambiente máxima de 40 graus centígrados.

TODOS OS PAÍSES: Instale o produto de acordo com as normas nacionais e locais para instalações elétricas.

SEGURIDAD
AVISOS ELECTRICOS
ADVERTENCIA: PELIGRO DE ELECTROCHOQUE
Para evitar un ELECTROCHOQUE, no quite la tapa. No hay ningún componente en el interior al cual puede prestar servicio el usuario. Esta unidad contiene VOLTAJES PELIGROSOS y sólo deberá abrirla un técnico entrenado y calificado. Para evitar la posibilidad de ELECTROCHOQUE desconecte la corriente eléctrica que llega al producto antes de conectar o desconectar los cables LAN.

PELIGRO DE RAYOS
PELIGRO: NO REALICE NINGUN TIPO DE TRABAJO O CONEXION en los equipos o en LOS CABLES durante TORMENTAS ELECTRICAS.

INSTALACION

ELECTRICO—AUTO-AJUSTE DE TENSION
Este producto se ajustará automáticamente a cualquier tensión entre los valores máximos y mínimos indicados en la etiqueta.

ELECTRICO—EQUIPO DEL TIPO CLASE 1
ESTE EQUIPO TIENE QUE TENER CONEXION A TIERRA. El cable tiene que conectarse a un enchufe a tierra debidamente instalado. Un enchufe que no está correctamente instalado podría ocasionar tensiones peligrosas en las partes metálicas que están expuestas.

ELECTRICO—ADVERTENCIA SOBRE EL CABLE
Use un cable eléctrico con un máximo de 4,5 metros de largo, con una capacidad mínima de 6 amperios, 250 V, hecho de cable HAR, con el conector moldeado IEC 320 en un extremo y con un enchufe que está aprobado por el país de uso final en el otro.

ATENCION: Las aberturas para ventilación no deberán bloquearse y deberán tener acceso libre al aire ambiental de la sala para su enfriamiento.

TEMPERATURA REQUERIDA PARA LA OPERACIÓN
Este producto está diseñado para una temperatura ambiental máxima de 40 grados C.

PARA TODOS LOS PAÍSES: Monte el producto de acuerdo con los Códigos Eléctricos locales y nacionales.

SÄKERHET
TILLKÄNNAGIVANDEN BETRÄFFANDE ELEKTRICITETSRISK:
RISK FÖR ELEKTRISK STÖTFör att undvika ELEKTRISK stöt, ta ej av locket. Det finns inga delar inuti som behöver underhållas. Denna apparat är under HÖGSPÄNNING och får endast öppnas av en utbildad kvalificerad tekniker. För att undvika ELEKTRISK STÖT, koppla ifrån produktens strömanslutning innan LAN-kablarna ansluts eller kopplas ur.

FARA FÖR BLIXTNEDSLAG
FARA: ARBETA EJ på utrustningen eller kablarna vid ÅSKVÄDER.

INSTALLATION

ELEKTRISKT —AUTOMATISK SPÄNNINGSJUSTERING
Denna produkt justeras automatiskt till alla spänningar inom omfånget som indikeras på produktens märkning.

ELEKTRISKT—TYP KLASS 1 UTRUSTNING
DENNA UTRUSTNING MÅSTE VARA JORDAD. Nätkabeln måste vara ansluten till ett ordentligt jordat uttag. Ett felaktigt uttag kan göra att närliggande metalldelar utsätts för högspänning. Apparaten skall anslutas till jordat uttag, när den ansluts till ett nätverk.

ELEKTRISKT —ANMÄRKNING BETRÄFFANDE KABELN
Använd en kabel med maximum längd 4,5 meter och minimum 6 amp nominal, 250V, av HAR kabelfabrikat med ett specialutformat IEC 320-kontaktdon i ena änden och i den andra en plugg som godkänts i landet där produkten används.

VARNING: Luftventilerna får ej blockeras och måste ha fri tillgång till omgivande rumsluft för avsvalning.

DRIFTSTEMPERATUR
Denna produkt är konstruerad för rumstemperatur ej överstigande 40 grader Celsius.

ALLA LÄNDER: Installera produkten i enlighet med lokala och statliga bestämmelser för elektrisk utrustning.

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Chapter 1
Product Description

Overview

This chapter describes the features of the following unmanaged Fast Ethernet switches:

- AT-FS716
- AT-FS716E
- AT-FS724I

Each switch model is described in Table 1.

Table 1 Switch Models and Port Description

Model	Description
AT-FS716	16 auto-negotiating 10/100 Mbps twisted pair RJ45 ports Port 16 with MDI/MDI-X push button Internal Power Supply
AT-FS716E	16 auto-negotiating 10/100 Mbps twisted pair RJ45 ports Port 16 with MDI/MDI-X push button External Power Supply
AT-FS724I	24 auto-negotiating 10/100 Mbps twisted pair RJ45 ports Port 24 with MDI/MDI-X push button Internal Power Supply

Note

For definitions of technical terms associated with Allied Telesyn's products, refer to the Glossary on Allied Telesyn's website at www.alliedtelesyn.com.

Common Major Features

These switches come with the following common features:

- IEEE 802.3 and IEEE 802.3u compliant
- 16 or 24 auto-negotiating 10/100Base-TX ports
- RJ45 ports that can be connected/disconnected without powering off the switch
- Store and forward switching at full-wire speed (14,880 packets per second on 10 Mbps ports and 148,880 packets per second on 100 Mbps ports)
- Media-dependent interface (MDI) push button setting for hub connection or MDI-X push button setting for PC connection on Port 16/24
- Support for up to 8K MAC addresses
- Internal power supply (100-120/200-240VAC) for AT-FS716 and AT-FS724I, or external power adapter for AT-FS716E
- Desktop or rackmounting (rackmount option for AT-FS716 and AT-FS724I only)

The switch models described in this guide complement the other Allied Telesyn Fast Ethernet products, providing simple, cost-effective solutions for switching between 10 and 100 Mbps. Easy to install, simply connect your 10Base-T or 100Base-TX station ports, and plug in the power.

Figures 1 show the front panel of the AT-FS716 switch. The AT-FS716E and AT-FS724I front panels are similar.

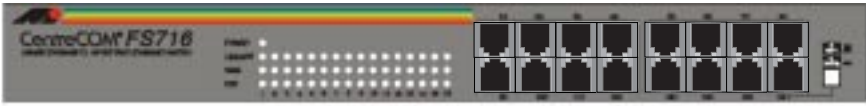


Figure 1 AT-FS716 Front Panel

Physical Description

The physical description for the switches includes:

- Media-Dependent Interface (MDI)/ MDI-X push button setting, Port 16 or Port 24
- LEDs
- Power supply

Front Panel LEDs

Figure 2 shows the layout of the front panel LEDs; Table 2 describes the LED status.

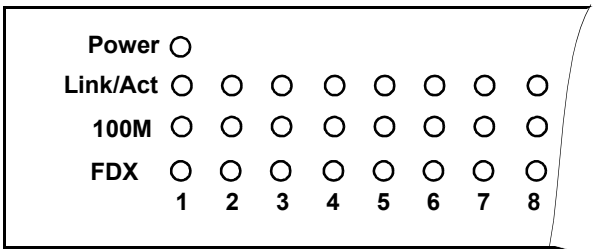


Figure 2 A partial view of the Front Panel LEDs

Table 2 LED Status

LEDs	Color	Description
POWER	Green	**Off** means there is no power to the switch. **On** means there is power to the switch.
LINK/ACTIVITY	Green	On indicates a valid physical link on the port. **Blinking** indicates data is being transmitted. **Off** means no link.
100M	Green	**Off** means the speed is 10 Mbps. **On** means the speed is 100 Mbps.
FDX (FULL-DUPLEX)	Green	**On** indicates full-duplex transmission mode. **Off** indicates half-duplex transmission mode.

MDI/MDI-X Port

Port 16/24 is associated with the MDI/MDI-X function push button.

The MDI/MDI-X push button gives you the flexibility of using a straight-through cable to connect to a hub or another switch (Port 16/24 MDI), or to any DTE device (Port 16/24 MDI-X), such as an end station or a server.

Table 3 MDI / MDI-X Push Button

Port 16 or Port 24	Use
MDI	To connect a hub or another switch to the port
MDI-X	To connect a DTE to the port

Power Supply

The AT-FS716 and AT-FS724I use a universal internal switching power supply with 100 to 120 VAC, or 200 to 240 VAC, 50/60 Hz input rating.

Allied Telesyn ships power cords with the units to the U.S., Continental Europe, and the U.K.

The AT-FS716E uses an external power adapter.

Required Voltage

The switches require input of 100 to 230 VAC. Maximum power consumption is 50W maximum.

Auto-Negotiation

The 10/100 Mbps ports are capable of auto-negotiation:

The ports automatically adapt to the wire speed (10 or 100 Mbps) and duplex transmission (half- or full-duplex) supported by the linked device without user reconfiguration.

Auto-negotiation is an optional function of the IEEE 802.3u Fast Ethernet standard that enables devices (switches) to automatically exchange information over a link about their speed and duplex abilities. This allows devices to perform automatic configurations to achieve the maximum common level of operation over a link. Auto-negotiation can provide automatic speed matching for multispeed devices at each end of a link. Multispeed Ethernet interfaces can then take advantage of the highest speed offered by the 10/100 ports on the switch.

The auto-negotiation protocol also includes automatic negotiation of duplex mode, allowing auto-negotiation-capable end-system devices to not only configure the speed but also change to full-duplex for even higher traffic throughput. This is particularly useful in environments where NICs are being replaced or desktop workstations are moved. Each time a new device is connected to a switch's port or a device is moved from one port to another, auto-negotiation will automatically reconfigure each port without any intervention from a network administrator.

Chapter 2
Installation

Before you Proceed

Before installing the switch, make sure you read "Electrical Safety and Installation Requirements" starting on page iii.

Verifying Package Contents

Make sure that the package includes the following items:

- ❑ One AT-FS716, AT-FS716E, or AT-FS724I switch
- ❑ One AC power cord (AT-FS716 or AT-FS724I) or power adapter (AT-FS716E)
- ❑ Two rackmounting brackets with screws (AT-FS716 or AT-FS724I only)
- ❑ Four self-adhesive rubber feet
- ❑ Warranty card
- ❑ This installation guide

If any of the above items is damaged or missing, contact your sales representative immediately.

Site Requirements

Make sure you observe the following site requirements:

- ❑ Make sure you are placing the switch in a dust-free and moisture-free environment.
- ❑ Do not block ventilation openings on the unit. Allow at least 10 cm (4 in) of space at the front and back of the unit for ventilation.
- ❑ Make sure that the switch's power is accessible and cables can be connected easily.
- ❑ Cabling should be away from sources of electrical noise such as radios, transmitters, broadband amplifiers, power lines, and fluorescent fixtures.
- ❑ Do not place objects on top of the switch.
- ❑ Use dedicated power circuits or power conditioners to supply power to the switch.

Desktop Installation

Place the switch on the desktop using these steps, or perform the steps "Rackmount Installation" on page 9.

1. Attach the four self-adhesive rubber feet to the bottom of the switch, positioning them in the indentations.
2. Place the switch on a flat, level surface where power is easily accessible.
3. Connect power:
   - — For AT-FS716 and AT-FS724I, attach one end of the power cord to the back of the switch and the other end to the power source.
   - — For AT-FS716E, plug the power adapter into the power receptacle, then plug the DC connector to the switch.

Note

The switch performs a self-diagnostic test upon power on, and takes about 20 seconds to complete.

4. Make sure the Power LED on the front panel lights green.
5. Attach the data cables and observe normal operation as indicated by the port LEDs. For Port 16/24, set the MDI/MDI-X push button as required.

Rackmount Installation

Rackmount installation applies to the AT-FS716 and AT-FS724 only. You will need a Phillips screwdriver for this installation.

Caution

Do not use power tools to perform this installation.

1. If previously attached, remove the rubber feet and all cables and power cord from the switch.
2. Attach the rackmounting brackets to each side of the switch, using the screws provided.
3. Attach the power cord to the back of the switch.
4. Position the switch in a standard 19-inch rack and secure the switch's brackets to the rack using the 4 large screws provided.
5. Plug the power cord into the power receptacle. Make sure the Power LED on the front panel lights green.
6. Attach the data cables and observe normal operation as indicated by the port LEDs. For Port 16/24, set the MDI/MDI-X switch as required. For typical configuration information, refer to "Configuration" on page 9.

You are finished with rackmount installation.

Configuration

Note

Auto-negotiation for transmission mode supports full-duplex only if the connected device also negotiates for full-duplex transmission mode.

The following sections discuss standalone, cascade and uplink configurations.

Standalone Configuration

Figure 3 shows the switch connected to end stations and a server. The basic physical connection for this configuration requires connecting one of the switch's ports to the adapter card of an end station.

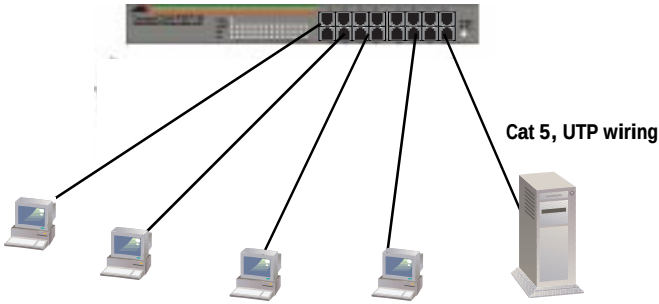


Figure 3 AT-FS716 Connected to End Stations

Cascade Configuration

Cascading means that two switches can be connected together using any of the switch ports provided you maintain the same medium type. Two switches can be cascaded to support multiple network port connections. Cable length to the nodes must follow the 100Base-TX cabling specifications.

To cascade installed switches, do the following:

Note

When cascading switches, you must use the same medium type from port to port.

1. If you intend to use Port 16/24, set the MDI/MDI-X push button to the MDI position (in).

2. Use a straight-through UTP RJ45 cable to connect the first switch to the second switch. See Figure 4.

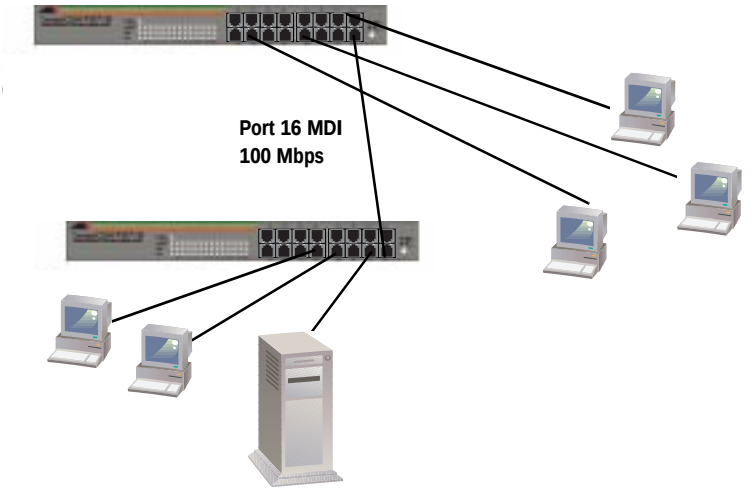


Figure 4 Cascading Switches

3. Check the front panels to make sure that the green Link/Activity LED lights.

Uplink Configuration

For 100 Mbps connection to the backbone, use Port 16/24 with the switch set for MDI, and Category 5 UTP cable.

Chapter 3
Troubleshooting

This chapter describes the procedures to test and troubleshoot the switches.

Connectivity Testing

In the following procedure, you will test each port for a valid connection and to confirm the correct operation of the network.

1. Start with Ports 1 and 2. Connect these two ports of a single switch to two nodes or workstations and turn on the switch power.

2. Wait approximately 1-3 seconds for the auto-negotiation process to complete after power-on or after the cables are reconnected.

3. Make sure the Link/Activity and other LEDs of both switch ports are lit.

4. After confirming that Port 1 and Port 2 are operational, reconnect one of the nodes/workstations to another port, then repeat this connectivitiy test with the switch's remaining ports. Continue to verify the connection in each port by checking the Link/Activity and other activity LEDs.

Note

Use Port 16/24 with the push button set for MDI-X to connect to a workstation, or MDI to connect to a hub or switch.

Problem Solving

Is the unit receiving power?

Check the Power LED on the front of the switch. This green LED should be lit.

Note

The switch performs a self-diagnostic test upon power on, and takes about 20 seconds to complete.

If the Power LED is not on, check both ends of the power cord or adapter. Make sure the power cord or adapter is plugged into a functioning wall outlet and that it is properly inserted into the switch's connector on the back of the unit.

Is the Link/Activity LED lit?

The Link LED on the front of the switch lights when a proper connection between the corresponding 10/100Base-TX port and the equipment connected to it is established. If this LED is not lit, check for the problems listed below and make corrections as necessary.

1. Problem 1:

   The cable has been cut, damaged, or it is the wrong type of cable.

   - ❑ Solution 1:

     — Try making the connection with a different cable. Be sure you are using an undamaged cable of the correct type.

2. Problem 2:

   Connected equipment is not turned on or not operating properly.

   - ❑ Solution 2:

     — Check the connected equipment (computer, another switch, etc.) and turn on the power.

3. Problem 3:

   Port 16/24 does not work.

   - Solution 3:

     — Make sure you have the correct MDI/MDI-X push button setting for Port 16/24. Use MDI for uplink, MDI-X for a PC.

4. Problem 4:

   There is data loss between the switch and one of the connected network nodes.

   - Solution 4:

     — Make sure that the distance between the switch and the connected network device is no greater than 100 m (328 ft).

     — Make sure you are using Category 5 cable for 100 Mbps operation.

Appendix A

Switch Specifications

Physical Characteristics

Chassis Dimensions:	W x D x H
AT-FS16	330 mm x 203 mm x 44 mm (13 in x 8 in x 1.72 in)
AT-FS16E	330 mm x 203 mm x 44 mm (13 in x 8 in x 1.72 in)
AT-FS24I	440 mm x 305 mm x 44 mm (17.36 in x 12 in x 2.5 in)
Weight:	
AT-FS716	4.75 lbs (2.16 kg)
AT-FS716E	4.4 lbs (2.0 kg)
AT-FS724I	5.5 lbs (2.5 kg)
Operating temperatures:	0° to 40° C (32° to 104° F)
Storage temperatures:	-40° to 70° C (-40° to 158° F)
Relative humidity:	5% to 95% (non-condensing)
Operating altitude:	Up to 3,048 m (10,000 ft)

Standards

CE Compliant	
Functional:	IEEE 802.3 10Base-T Ethernet IEEE 802.3u, 100Base-TX Fast Ethernet
EMI/RFI:	AT-FS716 and AT-FS716E: Meets FCC Class B, VCCI Class B, CISPR Class B AT-FS724: Meets FCC Class A, VCCI CLass A, CISPR Class A

Safety:	Conforms to all standards normally supported by Allied Telesyn products, including safety standards UL 1950, CSA/NRTL (C22.2 950, UL 1950),TUV/GS (EN60950)
Immunity:	IEC 1000-4-2/3/4/6

Cabling Specifications

10Base-T:	STP/UTP Category 3,4,5 100 ohm impedance
100Base-TX:	STP/UTP Category 5 wiring, 100 ohm impedance

100 m (328 ft) is the maximum distance between switch and network node connections.

Electrical Specifications

AT-FS716 or AT-FS724I Internal Power:

Internal universal power supply with 100 to 240 VAC, 50/60 Hz, 0.3 A input.

AT-FS716E External Power: External power adaper provides 13-19 UDC, 800 mA maximum.

UTP (RJ45) Connector

Figure 5 shows an RJ45 connector. For a 100Base-TX link between two switches, —any two Medium Attachment Units (MAUs)—you typically need a crossover cable. For a connection to a Network Interface Controller (NIC), the cable is wired straight-through in accordance with applicable standards.

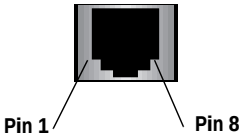


Figure 5 RJ45 Connector

Network Specifications

Table 4 provides an overview of IEEE 802.3 and 802.3u specifications for 10Base-T and 100Base-TX network configurations using shielded twisted-pair wiring.

Table 4 IEEE 802.3 and 802.3u Network Specifications

	10Base-T	**100Base-TX**
Media	Unshielded Twisted Pair/ Shielded Twisted Pair Category 3 or 5	Unshielded Twisted Pair/ Shielded Twisted Pair Category 5 only
Topology	Star, Tree	Star, Tree
External Devices	Network Adapter Card, Repeater, Switch	Network Adapter Card, Repeater, Switch
Maximum Segment Length	100 m (328 ft)	100 m (328 ft)

100Base-TX Cable

There are various grades of voice-quality and data-quality cables available. These can appear to be similar externally, although their high-speed data transmission characteristics are radically different.

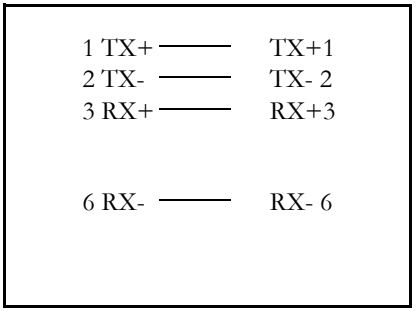
The identification problem is made worse by some suppliers selling voice-quality cables as data-quality cables.

If voice-quality cables are used in a 100Base-TX network system, data movement may be slow, collision-prone or non-existent. In addition, interface LEDs will usually indicate a valid link in such cases.

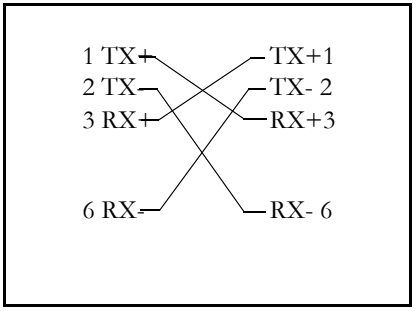
Category 5 is required cabling for use with 100Base-TX connections. Using any other category for a 100Base-TX connection may have high error rates and may not have the capacity to transmit data.

100Base-TX Connector Pinouts

Straight-through Cable



Crossover Cable



Appendix B

Technical Support Fax Order

Name _____

Company _____

Address _____

City _____ **State/Province** _____

Zip/Postal Code _____ **Country** _____

Phone _____ **Fax** _____

Incident Summary

Model number of Allied Telesyn product I am using _____

Network software products I am using _____

_____

Brief summary of problem _____

_____

Conditions (List the steps that led up to the problem.) _____

_____

_____ _____

Detailed description (Use separate sheet, if necessary)

_____

_____

_____

When completed, fax this sheet to the appropriate Allied Telesyn office. Fax numbers can be found on page 25.

Appendix C

AT-FS716, AT-FS716E, and AT-FS724I Switches Installation Feedback

Please tell us what additional information you would like to see discussed in the guide. If there are topics you would like information on that were not covered in the guide, please photocopy this page, answer the questions and fax or mail this form back to Allied Telesyn International Corp. The mailing address and fax number are at the bottom of the page. Your comments are valuable when we plan future revisions of the guide.

I found the following the most valuable _____

_____

_____

_____

I would like the following more developed _____

_____

_____

_____

I would find the guide more useful if _____

_____

_____

Please fax or mail your feedback. Fax to 1-408-736-0100. Or mail to:
Allied Telesyn International, Corp.
c/o Technical Communications
960 Stewart Drive, Suite B
Sunnyvale, CA 94086 USA

PN 613-10804-00 Rev. A

Appendix D

Where To Find Us

For Technical Support or Service		
Location	**Phone**	**Fax**
Americas United States, Canada, Mexico, Central America, South America	1 (800) 428-4835	1 (918) 628-3222
Asia Singapore, Taiwan, Thailand, Malaysia, Indonesia, Korea, Philippines, China, India	(+65) 3815-613	(+65) 3833-830
Australia Australia, New Zealand	(+61) 2-943-5111	(+61) 2-9438-4966
France France, Belgium, Luxembourg, The Netherlands, Middle East, Africa	(+33) 1-60-92-15-32	(+33) 1-69-28-37-49
Germany Germany, Switzerland, Austria, Eastern Europe	(+49) 30-435-900-126	(+49) 30-435-70-650
Hong Kong	(+852) 2-529-4111	(+852) 2 529-7661
Italy Italy, Spain, Portugal, Greece, Turkey, Israel	(+39) 02-416047	(+39) 02-419282
Japan	(+81) 3-3443-5640	(+81) 3-3443-2443
United Kingdom United Kingdom, Denmark, Norway, Sweden, Finland, Iceland	(+44) 1-235-442560	(+44) 1-235-442680
Technical Bulletin Board Service	1 (425) 483-7979	
Technical Support E-mail Address	TS1@alliedtelesyn.com	
CompuServe	Go ALLIED	
FTP Server	Address: ftp.alliedtelesyn.com [lowercase letters] Login: anonymous [lowercase letters] Password: your e-mail address [requested by the server at login]	

For Sales or Corporate Information	
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World Wide Web:	http://www.alliedtelesyn.com